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APR 19 2007

Docket No. 60,130-1109
01MRA0216

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Heaton, et al.
Serial No.: 09/915,805
Filed: 07/26/2001
Group Art Unit: 3683
Examiner: Torres, Melanie
Title: SPRING APPLIED ELECTRONIC RELEASE
PARKING BRAKE

CORRECTED APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant submits this brief in response to the notification of non-compliant appeal brief mailed March 19, 2007.

Introduction

The §103 rejection that is the subject of this appeal must be reversed because there is no *prima facie* case of obviousness. There is no basis for making the combination proposed by the Examiner because there is no benefit provided by the combination. Therefore, the combination cannot be made. Further, the Examiner asserts that the cited references have features that cannot be found within the references. Therefore, even if the combination were possible, the result is not the same as the claimed invention.

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Real Party in Interest

ArvinMeritor, Inc. is the Assignee of this application and the real party in interest.

Related Appeals and Interferences

There are no related appeals or interferences.

Status of the Claims

Claims 16-21 stand rejected under 35 U.S.C. §103. Claims 1-15 have been cancelled.

Status of Amendments

There are no unentered amendments.

Summary of Claimed Subject Matter

This invention generally relates to driveline parking brakes for automotive vehicles. It is important to note at the outset, that driveline parking brakes are not the same as wheel parking brakes. There is a recognized distinction within the industry between driveline components on the one hand and wheel components on the other hand. Conventional driveline parking brakes have used a spring to apply the brake and hydraulic pressure to release the brake. Applicant's claimed invention uses an electrical release arrangement.

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Independent claim 16 recites:

16. A vehicle driveline parking brake assembly, comprising:
- a moveable driveline component;
 - a stationary driveline component that remains stationary relative to a portion of a vehicle;
 - a braking member associated with the moveable driveline component such that the braking member remains stationary relative to the moveable driveline component;
 - an engaging portion associated with the stationary driveline component, the engaging portion is selectively moveable into a braking position where the engaging portion engages the braking member;
 - a spring that biases the engaging portion into the braking position;
 - an electrically powered actuator having a portion that engages the spring and selectively moves the spring and releases the engaging portion out of the braking position; and
 - the moveable driveline component comprises a driveline shaft and the braking member comprises a drum that is fixed for rotation on the driveline shaft, and that is rotatable relative to the stationary driveline component.

One example embodiment that claim 16 reads upon is shown in Figure 1 and Figure 3. A transmission housing 22 is a stationary driveline component that remains stationary relative to a portion of a vehicle. (page 3, line 6) A driveline shaft 30 is a moveable driveline component that, in the example of Figure 1, includes a drum 42, which is a braking member fixed on the driveline shaft 30 and that is rotatable relative to the transmission housing 22. (page 3, line 8) An engaging portion 44, which is a duplex cam arrangement including brake pads in the example of Figure 1, is selectively moveable into a braking position to engage the braking member drum 42. (page 3, line 12) As best appreciated from Figure 3, a spring 66 biases the engaging portion 42 into the braking position. (page 4, line 14-15) An electrically powered actuator 60 has an arm 62 and a support member 64 that engages the spring 66 to selectively move the spring and release the engaging portion out of the braking position. (page 4, line 5-12)

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Independent claim 18 recites:

18. A vehicle driveline parking brake assembly, comprising:
- a moveable driveline component;
 - a stationary driveline component that remains stationary relative to a portion of a vehicle;
 - a braking member associated with the moveable driveline component such that the braking member remains stationary relative to the moveable driveline component;
 - an engaging portion associated with the stationary driveline component, the engaging portion is selectively moveable into a braking position where the engaging portion engages the braking member;
 - a spring that biases the engaging portion into the braking position;
 - an electrically powered actuator having a portion that engages the spring and selectively moves the spring and releases the engaging portion out of the braking position; and
 - wherein the stationary driveline component comprises a transmission housing and the engaging portion is at least partially supported on the transmission housing such that when the engaging portion moves into the braking position, the braking member and the associated moveable driveline component do not move relative to the transmission housing.

Claim 18 specifically recites that the stationary driveline component comprises a transmission housing such as the housing 22 shown in the example embodiment of Figure 1. (page 3, line 4,5) A driveline shaft 30 is a moveable driveline component that, in the example of Figure 1, includes a drum 42, which is a braking member fixed on the driveline shaft 30 and that is rotatable relative to the transmission housing 22. (page 3, line 8) An engaging portion 44, which is a duplex cam arrangement including brake pads in the example of Figure 1, is selectively moveable into a braking position to engage the braking member drum 42. (page 3, line 12) As best appreciated from Figure 3, a spring 66 biases the engaging portion 42 into the braking position. (page 4, line 14-15) An electrically powered actuator 60 has an arm 62 and a support member 64 that engages the spring 66 to selectively move the spring and release the engaging portion out of the braking position. (page 4, line 5-12)

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Independent claim 19 recites:

19. A vehicle driveline parking brake assembly, comprising:
- a moveable driveline component;
 - a stationary driveline component that remains stationary relative to a portion of a vehicle;
 - a braking member associated with the moveable driveline component such that the braking member remains stationary relative to the moveable driveline component;
 - an engaging portion associated with the stationary driveline component, the engaging portion is selectively moveable into a braking position where the engaging portion engages the braking member;
 - a spring that biases the engaging portion into the braking position;
 - an electrically powered actuator having a portion that engages the spring and selectively moves the spring and releases the engaging portion out of the braking position; and
 - wherein the stationary driveline component comprises an axle assembly and the engaging portion is at least partially supported on the axle assembly such that when the engaging portion moves into the braking position, the braking member remains stationary relative to the axle assembly.

Independent claim 19 particularly recites that the stationary driveline component comprises an axle assembly. One embodiment that claim 19 reads upon is shown in Figure 2 where an axle assembly 54 is associated with the engaging portion 44, which is at least partially supported on the axle assembly 54. (page 3, line 26-29) A driveline shaft 30 is a moveable driveline component that, in the example of Figure 1, includes a drum 42, which is a braking member fixed on the driveline shaft 30 and that is rotatable relative to the transmission housing 22. (page 3, line 8) An engaging portion 44, which is a duplex cam arrangement including brake pads in the example of Figure 1, is selectively moveable into a braking position to engage the braking member drum 42. (page 3, line 12) As best appreciated from Figure 3, a spring 66 biases the engaging portion 42 into the braking position. (page 4, line 14-15) An electrically powered actuator 60 has an arm 62 and a support member 64 that engages the spring 66 to selectively move the spring and release the engaging portion out of the braking position. (page 4, line 5-12)

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Independent claim 20 recites:

20. A vehicle driveline parking brake assembly, comprising:
- a moveable driveline component;
 - a stationary driveline component that remains stationary relative to a portion of a vehicle;
 - a braking member associated with the moveable driveline component such that the braking member remains stationary relative to the moveable driveline component;
 - an engaging portion associated with the stationary driveline component, the engaging portion is selectively moveable into a braking position where the engaging portion engages the braking member;
 - a spring that biases the engaging portion into the braking position;
 - an electrically powered actuator having a portion that engages the spring and selectively moves the spring and releases the engaging portion out of the braking position; and
 - wherein the braking member comprises a drum housing, the engaging portion comprises a duplex cam having brake pads that are moveable in a generally outward direction to selectively engage an inner surface on the drum housing and the spring biases the brake pads in the outward direction.

This claim particularly recites that the braking member comprises a drum housing such as the drum 42 shown in Figures 1 and 2. The engaging portion in this claim is particularly recited to be a duplex cam having brake pads that are moveable in a generally outward direction. The example embodiments of Figures 1 and 2 both show a duplex cam arrangement 40 having brake pads 44. (page 3, line 10-19) A driveline shaft 30 is a moveable driveline component that, in the example of Figure 1, includes a drum 42, which is a braking member fixed on the driveline shaft 30 and that is rotatable relative to the transmission housing 22. (page 3, line 8) An engaging portion 44, which is a duplex cam arrangement including brake pads in the example of Figure 1, is selectively moveable into a braking position to engage the braking member drum 42. (page 3, line 12) As best appreciated from Figure 3, a spring 66 biases the engaging portion 42 into the braking position. (page 4, line 14-15) An electrically powered actuator 60 has an arm 62 and a support member 64 that engages the spring 66 to selectively move the spring and release the engaging portion out of the braking position. (page 4, line 5-12)

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Independent claim 21 recites:

21. A vehicle driveline parking brake assembly, comprising:
- a moveable driveline component;
 - a stationary driveline component that remains stationary relative to a portion of a vehicle;
 - a braking member associated with the moveable driveline component such that the braking member remains stationary relative to the moveable driveline component;
 - an engaging portion associated with the stationary driveline component, the engaging portion is selectively moveable into a braking position where the engaging portion engages the braking member;
 - a spring that biases the engaging portion into the braking position;
 - an electrically powered actuator having a portion that engages the spring and selectively moves the spring and releases the engaging portion out of the braking position; and
 - wherein the moveable driveline component rotates relative to the stationary driveline component.

In this claim, the moveable driveline component is specifically recited as rotating relative to the stationary driveline component. This claim reads on example embodiments like those shown in Figures 1 and 2 where a driveline shaft 30 rotates relative to a transmission housing 22 in the one embodiment and an axle assembly 54 in the other embodiment. A driveline shaft 30 is a moveable driveline component that, in the example of Figure 1, includes a drum 42, which is a braking member fixed on the driveline shaft 30 and that is rotatable relative to the transmission housing 22.

(page 3, line 8) An engaging portion 44, which is a duplex cam arrangement including brake pads in the example of Figure 1, is selectively moveable into a braking position to engage the braking member drum 42. (page 3, line 12) As best appreciated from Figure 3, a spring 66 biases the engaging portion 42 into the braking position. (page 4, line 14-15) An electrically powered actuator 60 has an arm 62 and a support member 64 that engages the spring 66 to selectively move the spring and release the engaging portion out of the braking position. (page 4, line 5-12)

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01MRA0216**Grounds of Rejection to be Reviewed on Appeal**

Claim 16-21 were rejected under 35 U.S.C. §103 over the proposed combination of WO 01/05638 and U.S. Patent No. 6,428,117.

Argument

There is no *prima facie* case of obviousness. There is no legal basis for making the proposed combination of the *Laxhuber* (WO 01/05638) reference and the *Messersmith* (US Patent No. 6,428,117) reference. Further, even if the combination could be made, the result is not the same as Applicant's claimed invention.

The rejection under 35 U.S.C. §103 based upon the combination of the *Laxhuber* and *Messersmith* references must be reversed.

There must be a sufficient legal basis to make a combination in order to establish a *prima facie* case of obviousness. In this instance, the proposed combination between the *Laxhuber* and *Messersmith* references cannot be made as proposed by the Examiner. Where a proposed combination does not provide any benefit, the combination cannot be made. Here, there is no *prima facie* case of obviousness because the proposed additional feature from *Messersmith* provides no benefit to the arrangement of the *Laxhuber* reference.

The Examiner admits that the *Laxhuber* reference (WO 01/05638) "does not teach wherein the moveable driveline component comprises a driveline shaft and the braking member comprises a drum that is fixed for rotation on the driveline shaft that is rotatable relative to the stationary driveline component." (Final Office Action) The Examiner then proposes to modify the *Laxhuber* reference by incorporating portions of the *Messersmith* reference into the *Laxhuber* reference. The Examiner states, "*Messersmith* teaches wherein a moveable driveline component

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(17) comprises a driveline shaft and the braking member comprises a drum (16) that is fixed for rotation on the driveline shaft that is rotatable relative to the stationary driveline component. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the drum assembly of *Messersmith* in combination with the brake-applying device of WO 01/05638 since parking brakes are well known for use in drum assemblies."

This proposed combination provides no benefit in the *Laxhuber* reference and, therefore, there is no motivation for making it. The *Laxhuber* reference is directed to a device for monitoring an electromechanical brake applying arrangement. There is nothing about that reference that indicates it is a driveline parking brake arrangement. The *Laxhuber* reference appears to be directed to a wheel brake arrangement. Therefore, adding a driveline shaft or drum as shown in *Messersmith* to the arrangement of *Laxhuber* will not provide any useful or beneficial result. The *Laxhuber* device is used for a wheel brake, therefore, combining it with a driveline shaft, drum or both as shown in *Messersmith* will not provide any useful result. The two operate independent from each other.

Additionally, even if the combination could somehow be made, the result is not the same as what is claimed. The *Laxhuber* reference is directed to a wheel brake arrangement and it does not have much of what the Examiner contends it has. The Examiner improperly interprets the brake housing 17 of the *Laxhuber* reference as a "stationary driveline component" nor does *Laxhuber* disclose a moveable driveline component associated with the "stationary driveline component." There is nothing in the *Laxhuber* reference that can reasonably be interpreted as a stationary driveline component, let alone one that satisfies the limitations of Applicant's claims. Neither reference discloses or suggests associating driveline parking brake components with a transmission housing or an axle housing as recited in some of Applicant's claims. Therefore,

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even if the Examiner's interpretation of the *Laxhuber* reference were reasonable and the combination could be made, at least claims 18 and 19 are not possibly rendered obvious because the improper combination does not possibly result in the arrangements recited in those claims.

Without any basis for making the combination, there is no *prima facie* case of obviousness. With the additional failure of the proposed combination to result in the claimed invention, it is not possible for the rejection to be sustained.

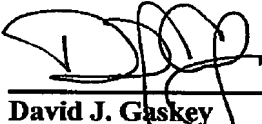
CONCLUSION

There is no *prima facie* case of obviousness because there is no benefit to making the Examiner's proposed combination. Additionally, the main reference does not teach what the Examiner contends and even if the combination could be made, it is not the same as Applicant's claimed invention. The rejection must be reversed.

Respectfully submitted,

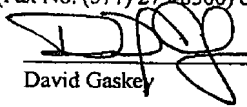
CARLSON, GASKEY & OLDS, P.C.

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CERTIFICATE OF FACSIMILE

I hereby certify that this Corrected Appeal Brief, relative to Application Serial No. 09/915,805, is being facsimile transmitted to the Patent and Trademark Office (Fax No. (571) 273-8300) on April 19, 2007.


David Gaskey

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01MRA0216APPENDIX OF CLAIMS

16. A vehicle driveline parking brake assembly, comprising:
- a moveable driveline component;
 - a stationary driveline component that remains stationary relative to a portion of a vehicle;
 - a braking member associated with the moveable driveline component such that the braking member remains stationary relative to the moveable driveline component;
 - an engaging portion associated with the stationary driveline component, the engaging portion is selectively moveable into a braking position where the engaging portion engages the braking member;
 - a spring that biases the engaging portion into the braking position;
 - an electrically powered actuator having a portion that engages the spring and selectively moves the spring and releases the engaging portion out of the braking position; and
 - the moveable driveline component comprises a driveline shaft and the braking member comprises a drum that is fixed for rotation on the driveline shaft, and that is rotatable relative to the stationary driveline component.
17. The assembly of claim 16, wherein the electrically powered actuator maintains the spring in a compressed position to keep the engaging portion out of the braking position.

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18. A vehicle driveline parking brake assembly, comprising:

a moveable driveline component;

a stationary driveline component that remains stationary relative to a portion of a vehicle;

a braking member associated with the moveable driveline component such that the braking member remains stationary relative to the moveable driveline component;

an engaging portion associated with the stationary driveline component, the engaging portion is selectively moveable into a braking position where the engaging portion engages the braking member;

a spring that biases the engaging portion into the braking position;

an electrically powered actuator having a portion that engages the spring and selectively moves the spring and releases the engaging portion out of the braking position; and

wherein the stationary driveline component comprises a transmission housing and the engaging portion is at least partially supported on the transmission housing such that when the engaging portion moves into the braking position, the braking member and the associated moveable driveline component do not move relative to the transmission housing.

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19. A vehicle driveline parking brake assembly, comprising:
- a moveable driveline component;
 - a stationary driveline component that remains stationary relative to a portion of a vehicle;
 - a braking member associated with the moveable driveline component such that the braking member remains stationary relative to the moveable driveline component;
 - an engaging portion associated with the stationary driveline component, the engaging portion is selectively moveable into a braking position where the engaging portion engages the braking member;
 - a spring that biases the engaging portion into the braking position;
 - an electrically powered actuator having a portion that engages the spring and selectively moves the spring and releases the engaging portion out of the braking position; and
 - wherein the stationary driveline component comprises an axle assembly and the engaging portion is at least partially supported on the axle assembly such that when the engaging portion moves into the braking position, the braking member remains stationary relative to the axle assembly.

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20. A vehicle driveline parking brake assembly, comprising:

a moveable driveline component;

a stationary driveline component that remains stationary relative to a portion of a vehicle;

a braking member associated with the moveable driveline component such that the braking member remains stationary relative to the moveable driveline component;

an engaging portion associated with the stationary driveline component, the engaging portion is selectively moveable into a braking position where the engaging portion engages the braking member;

a spring that biases the engaging portion into the braking position;

an electrically powered actuator having a portion that engages the spring and selectively moves the spring and releases the engaging portion out of the braking position; and

wherein the braking member comprises a drum housing, the engaging portion comprises a duplex cam having brake pads that are moveable in a generally outward direction to selectively engage an inner surface on the drum housing and the spring biases the brake pads in the outward direction.

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21. A vehicle driveline parking brake assembly, comprising:

a moveable driveline component;

a stationary driveline component that remains stationary relative to a portion of a vehicle;

a braking member associated with the moveable driveline component such that the braking member remains stationary relative to the moveable driveline component;

an engaging portion associated with the stationary driveline component, the engaging portion is selectively moveable into a braking position where the engaging portion engages the braking member;

a spring that biases the engaging portion into the braking position;

an electrically powered actuator having a portion that engages the spring and selectively moves the spring and releases the engaging portion out of the braking position; and

wherein the moveable driveline component rotates relative to the stationary driveline component.

22. The assembly of claim 19, wherein the stationary driveline component comprises a housing of the axle assembly.

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EVIDENCE APPENDIX

None.

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RELATED PROCEEDINGS APPENDIX

None.